

EMR-206 report 11

July 2002

Present Kornke, Pearson, Nauru staff

Jason Ortega

Wx Fine sunny

EMR-0206N, M (Jun/Jul, 2002)

Proposed dates at Nauru: 01Jul to 12Jul, 2002

Proposed dates at Manus: 15Jul to 26Jul, 2002

EMR Team:

- Kornke – lead
- Pearson (Nauru only)
- Garietz (Manus only)
- Ortega (VSAT)

Nauru tasks:

(Bolded/italics items top priority)

1. *DCP Install*

01 July

- DCP installed and awaiting test
- Spare DCP failed to work on installation, unit disassembled and checked, all connectors reseated and now functions

02 July

- Data successfully transmitted to Wallops and recovered by TWP office.
- Lunchtime launch today completed by observers without intervention from Techs.
- TWP office should recover the files from Wallops and confirm operation on a daily basis for the next few days

03 July

- Sysgen output configuration completed, data files sent to observer laptop for FTP to remote site.

10 July

- Separate to the install but affects the WMO data placement. Problems with data format. Data is being sent from Nauru to Wallops successfully but it is not getting on to the GTS. Have checked with BOM GTS gateway and they cannot see the data – consequently it is not being forwarded to Fiji etc. This has to be followed up in the US – BK to contact for additional support.

2. *Update Digicora Sysgen and sent to TWP ftp site*

04 July

- Commenced work on updating Sysgen.

06 July

- Data transfer process testing – some minor problems with ftp process

07 July

- Sysgen not changed, no requirement to update Config

3. *Train Observers for AIRS support*

02 July

- Data mapping for the BBSS data completed and test files collected. Methodology for file transfer tested and confirmed.
 - Files collected included binary, raw and WMO series.
 - Further testing tomorrow to be conducted with balloon launch
- 03 July
- Problems occurred in retuning the sondes, faulty sonde identified, will continue to train observers in tuning process
- 04 July
- Continuing problem with tuning sondes. BoM are sending a frequency counter from Darwin to assist in the tuning. Also looking at other procedures that may assist.
- 05 July
- Dual launch successfully completed.
- 08 July
- PCMCIA serial port card arrived from Darwin – setup additional serial port in observer laptop, this removed the need for them to change serial cables during the launch.
 - Frequency counter arrived from Darwin – allows easy setup of sonde frequency.
- 09 July
- Observer training continuing, working on launch timing.

4. *Troubleshoot and Repair I-Van UPS*

- 05 July
- Commenced testing I Van UPS system
- 10 July
- Replacement of contactor tonight so I van instruments will go red for a short time.

5. *Pack up entire MPL and ship back*

- 01 July
- MPL disassembled and packed into shipping containers to be dispatched on Thursday
 - Laser WD27536, Laser power supply WD28844 & Scaler & control WD23019
 - Does the computer have to be shipped?

6. *Meet with VSAT survey person on arrival 08July (Jason Ortega)*

- 08 July
- Jason arrived and started work

7. *Verify site sign-in sheet and Safety Manual review in place in E-Van when you arrive (Nic is to have all visitors sign and read).*

- 01 July
- Sign in completed, site safety manual sighted and checked
- 08 July
- Jason and Glen signed in.

8. *Bring Andrew to site to call Jones*

- 01 July
- Andrew has been contacted and told to call
- 02 July
- Andrew attended the teleconference on Monday afternoon

9. *GENSET maintenance, filter leak (HD to be on site)*

- 08 July
 - Glen arrived and completed maintenance on CAT Genset
 - Leaking filter repaired
 - Evaluated maintenance requirements for NIES Genset

- 10. Config Outfitter SAT phone for ISP dial out
 - 02 July
 - Successfully connected to ISP and sent e-mails

- 11. Access System I/O upgrade for UPS's
 - 08 July
 - Commenced installation work
 - Hardware supplied incompatible with Nauru setup

- 12. WSI permanent night pollution shades
 - 07 July
 - Arranged for shading to be constructed on Tuesday
 - 10 July
 - Completed today, pictures attached

- 13. Monthly T/RH probe filter change instruct Observers
 - 07 July
 - Filter changed by observers without problems

- 14. ARCS-2 Drawing Book Mark Up
 - 08 July
 - Commenced drawing updates

- 15. Go through storage vans & remove unneeded items
 - 02 July
 - Commenced cleanup of storage van
 - Spare Clarey inverter unit from UPS 2-1-SR-2/IG-SBS S/no 10288 can Monty confirm this should be shipped back to US – has been in Nauru since 1999 in storage case at back of storage van

- 16. Replenish electronics kit (Cable supplies, shrink tube etc.)
 - 06 July
 - Additional goods stored in van

- 17. Commission spare diesel tank, demo pump
 - 02 July
 - Fuel gauge installed in diesel tank. Supplied gauge is not suitable as it touches the side of the tank (This is due to internal pipes in the tank. A fuel gauge that uses a vertical sensor (in lieu of the horizontal float) will be required to successfully complete the install. The current sensor will only read $\frac{3}{4}$ full when the tank is full and go down from there.
 - 06 July
 - Waiting for fuel spear to arrive (hopefully on Monday's flight – this one was missing in last shipment – we received 3 out of 4 boxes)
 - 08 July
 - Goods did not make flight out of Brisbane – hopefully Thursday

10 July

- No planes on a Wednesday but the spare arrived – guess it actually arrived on Monday!! Installed and tested – transferred fuel to small tank. Pictures attached

18. Recon network to separate the functionality of IOP, instrument and data system networks (a la Eagan)

01 July

- 4 pair of fiber available from I van to D van
- 3 pair of fiber available from E van to D van

19. Mount new fire extinguishers in Vans (Observers)

01 July

- Completed

20. Review land phone line status with Duburiya

06 July

- Same problem, waiting on availability of equipment!! To lay the cable

21. Change out gas analyzer sensor cell

05 July

- Sensor cell replaced (Sno 544326). Batteries not holding charge, down to 2.5 volts each (Should be 3.6 volts) Replacement set ordered from Teledyne agent in Melbourne. Anticipated delivery 2 weeks. Observers will be shown how to replace batteries.

22. AERI diagnostics (when the "Encoder Scene Confirm" button on the MADS display is red, click the red button with the mouse. A box will appear describing the range of values for green and yellow and it will also report the current value.)

07 July

- Have not seen the alarm to record information

11 July

- AERI UPS dropped out causing circuit breaker to trip. Batteries are unserviceable (reported Reset 15) but replacements have not arrived. Swapped out UPS with spare Clary unit at NIES site. Provided observers with details of replacing unit to NIES site if required. Measured currents on circuit breaker, breaker is rated at 16 amps and has a 4.8 amp load.

23. BBSS components inventory (Maestas cheat sheets)

11 July

- Completed Today

24. Repair MMCR

01 July

- TWT appears ok
- The talk listen lights on the Mux are permanently on (even with the GPIB bus removed)
- The talk listen lights on the ADC are permanently off – i.e. no activity
- Need advice from Kevin Widener

02 July

- Checked the MMCR data as per information received today. There is an error on initializing one of the GPIB components as suspected. Attached file showing the error needs to be sent for further assistance

11 July

- Replacement MUX and ADC being sourced by K. Widener, nothing more can be done on unit. (Spoke to Kevin this morning).

25. Repair DC monitoring system in D Van

01 July

- Fault in battery monitoring system repaired and battery voltage adjusted. This battery system feeds the GOES transmitter and indicated a healthy system

26. D Van air conditioner No2 faulty

03 July

- Air conditioner 2 in D Van faulty – A/C mechanic from Capellies to check A/C mechanic found faulty thermostat – temp repair completed and unit working. Checking on parts availability. Will advise if spares are required

27. Skyrad data fault

03 July

- Data corruption coming from datalogger. Some fields contain digits that are 10 bits or longer. Need Bill Porch to send the definition headers for the skyrad data logger so we can determine which instrument is causing the problem. E-mail to the observers e-mail account. We need this for early tomorrow morning please.

04 July

- Skyrad fault traced to faulty cable on PIR (Thanks Bill Porch for the info – really helped isolate the faulty unit)

04 July

- Greased tracker bearings, anti-freeze compound on mounting screws of tracker and checked level.

04 July

- Replaced all radiometer mounting bolts with “nylon” bolts and checked level of the radiometers (Thanks Monty for the bolts)

05 July

- Raw data in Adam is ok, but is not being ingested. Cleared existing files in ingest and system appears to be working. Will check later tonite.

06 July

- Skyrad ingest appears ok now

28. Y Van fluorescent light

05 July

- Fluro light in Y van repaired – ballast replaced

29. Laptop configurations

07 July

- Setup spare laptop at NIES site for internet and e-mail access.
- Move NIES laptop back to E Van to use lan connection for FTP collection of files for AIRES IOP. Setup FTP access on both laptops to enable observers to send files to TWP FTP site.

30. ARCS2 MFRSR

08 July

- Visual inspection of ARCS2 MFRSR head indicated moisture in connector.
- Removed connector and cleaned out water and corrosion around pins.
- Replaced connector and sealed with vulcanizing tape

31. D Van Temp monitoring

11 July

- Investigated D Van temp monitoring fault. Reprogrammed analogue I/O block and tested ok.

32. Electrolyser current meter faulty

11 July

- Current meter is sticking. Removed meter and straightened needle, and adjusted meter pivot bearings. Meter now functioning. Replacement unit ordered as spare – T. Stiles is purchasing.

33. U Van step broken

11 July

- Made new step for U Van to replace rotten step – EH&S issue

NIES tasks:

(Bolded/italics items top priority)

1. Install NIES Generator Power System

01 July

- Trench dug from hotel to site and conduit and power cables have been run

02 July

- Genset installed in compound and test run completed
- Transfer switch installed in Room 201 and majority of wiring completed

03 July

- Ground rod installed for Genset earthing and wired to Genset. Fault occurred in transfer switch. Signal indicating mains power is ok but is not operating mains contactor. MacFarlane generators contacted and are sending out a new transfer switch, hopefully due here on Friday or Monday flight. We are working on possible solutions if this doesn't arrive.

05 July

- Have arranged for the Nauru welfare officer to hand carry the transfer controller from Melbourne to Nauru on Sunday. (Thanks Terry for pickup and arranging)

06 July

- Installed battery charger for diesel Genset battery and tested

08 July

- New transfer switch controller arrived today. Installed in transfer switch cabinet and tested operation of system. System functioned as designed!!!!!! Ready to put into network as soon as shelter is completed over Genset.

09 July

- First power failure this afternoon – since Genset installed – powered site as planned with nil outage. Still waiting on the cover have made a temporary cover with a tarpaulin

10 July

- Installed chain from Genset to fence as basic security measure

11 July

- Installed shelter over Genset for weather protection.

2. Install NIES MFRSR head

03 July

- Checked MFRSR but not installing new head until steady power is available

07 July

- Run up MFRSR today with head to test functionality. Cleaned water from inside motor. Motor is rotating with correct timing but is not stopping to shade the detector.

08 July

- MFRSR shading arm is rotating as if it was night i.e without stopping 3 times to shade the detector. We have tried a replacement motor, replacement head and replacement logger board. There are no spare cables on site. The init seems to work ok.
- Checked MFRSR at midnight (thanks to the girls who kept us talking !!) and it was working as if it was day i.e. stopping during rotation. Inspection of the computer clock setup showed the time zone was set incorrectly ((it was set to +12 hours Fiji) wasn't looking for a computer problem) MFRSR now working as expected. This problem was the reason why we checked the ARCS2 MFRSR head – worked in our favor by finding the wet connector at ARCS2, which would have caused problems in the future

11 July

- MFRSR head installed Sno 00446

3. ***Investigate and repair NIES grounding problems.***

03 July

- Commenced looking at data problems

04 July

- IRT in a “bad” way. Heavy corrosion on the connector and mirror is marked.
- NIP connector has heavy corrosion.
- Put battery on logger and removed mains power as a test to see if there is mains interference.
- While cleaning the connectors (IRT and NIP) noticed the data cleaned up. Replaced cables one at a time and the IRT seemed to be causing the problem. Have recorded the sequence and is attached to the e-mail, also sent to C. Long.
- Will monitor the data overnight to see if the change is permanent

05 July

- Swapped IRT from ACRS2 site to test and confirmed all worked ok. Restored ARCS2 IRT. Data at NIES is ok with good IRT. Placed short on IRT input to logger to remove noise on channel.
- Refurbish radiometer ventilators due to corrosion of mounting screws.
- Refurbish IRT case ready for replacement unit.
- Greased and checked K&Z tracker.
- Trying to capture current data for review by C. Long

06 July

- Initial data files sent to C. Long and have his software working so we can now look at data locally

08 July

- Additional data file sent to C. Long for evaluation, will await comment.
- IRT didn't arrive from Darwin

09 July

- C. Long advised data looked good, except for a minor variance (.3 degree) in a reading, he thought this might be related to a faulty ventilator fan or heavy salt buildup on radiometer.
- The ventilator fans are working normally. There IS a heavy salt buildup on the instruments over the 24-hour period so this probably explains the variance.

10 July

- Sent additional data to C. Long for confirmation. He verified that the data looked great.

11 July

- IRT arrived from Darwin!!! Installed in NIES site - WD23001 Sno 1553 Model No KT19.85
- Checking data

4. Troubleshoot the NIES TSI (Chucks email)

01 July

- Initial check of TSI indicates no functionality

02 July

- TSI packed up and will be shipped out on Thursday

5. Troubleshoot NIES hotel room AC needing reset after power outage

01 July

- The style of A/C installed does not automatically start, needs a manual start after power outage. To rectify would require either replacement of the A/C or a control circuit installed to detect a power outage and provide a start function to the A/C and modification of the A/C wiring

6. Troubleshoot NIES hotel UPS alarm upon power outage.

02 July

- UPS number 1 repaired, reseated AC connector inside unit and charging batteries.
- UPS number 2 – all batteries faulty, typically 4 volts and not holding charge. Unable to test run the UPS will wait for the replacement batteries due shortly.

04 July

- Replacement batteries arrived from Darwin and were installed into UPS 2. UPS left on to charge the batteries
- UPS's programmed to have silent alarm, tested by removing mains to ensure they remained quiet.

7. NIES system components inventory (Maestas cheat sheets)

07 July

- Commenced inventory of NIES site equipment
- NIES inventory put on TWPPPO FTP site under reset/EMR206/NIES inventory

8. NIES room wiring clean up

03 July

- Commenced tidy up of wiring in NIES room